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We extract the following letter written by C. J. SMITHELLS to "*Nature*" from that journal (26th July, 1930, page 133):

"During a metallographic examination of some copper alloys it was observed that certain etching reagents produced a surface which was light sensitive, to such a degree that the illuminated area of the specimen turned black during a few seconds' examination under the microscope. The phenomenon has been investigated, and found to depend upon the well-known light-sensitivity of cuprous chloride. The process affords a simple and rapid method of obtaining a sharp photographic image on the surface of plates of copper and copper alloys, including white alloys like German silver. It appears, however, to have escaped observation, and a brief description may therefore be of interest. It seems possible that the process may have some technical application, although I do not know of any, and I should be glad to give further information to anyone interested.

"The copper or brass surface is polished and cleaned as for engraving, and dipped for ten seconds into a ten per cent solution of cupric chloride or copper ammonium chloride. A very thin white film, which X-ray examination shows to be cuprous chloride, forms on the surface of the plate. The plate is washed in running water, rinsed in methylated spirit, and dried in the air. The methylated spirit not only accelerates drying, but also makes the film much more adherent, and the wet plate can be wiped with a cloth without the film being destroyed. The plate is now light sensitive. On exposure for a few seconds to the direct light from an arc lamp the surface turns black, owing to the conversion of cuprous chloride into cuprous oxide. For contact prints from ordinary negatives an exposure of about one minute to the light of an arc lamp is required. The image (positive) so obtained is about equal in definition and contrast to that obtained in the ordinary three-colour and photogravure processes. The image can be "fixed" by washing in dilute hypo or salt solution, but since this also reduces the intensity of the image the plate should be over-exposed during printing. For many purposes, such as engraving, fogging by diffuse day-light is so slow that fixing in unnecessary."

Research Laboratories of the General Electric Company, Wembley, July 2.